

rounded, crowned by the persistent stigma, the body 9 to 11 mm. long, terete, striate, with the wing decurrent along the sides to the base, 1-seeded; the seed erect, about 12 mm. long, dark red and minutely verrucose; cotyledons nearly flat, lanceolate-linear, about 1 cm. long, 1.2 mm. wide; radicle very short, about 0.7 mm. long.

Type in the Royal Botanic Gardens, Kew, B. Balansa 4477, fruits, collected on the east slope of Cerro Hu, near the Paraguay, Paraguay, April 10, 1883.

Additional specimens examined: PARAGUAY: in forest, Cerro Hu, near the Paraguay, Oct. 1881, Balansa 3079, flowers. BRAZIL: Minas, M. A. Glaziou 16741, flowers.

P. microcarpa differs from P. populnea Reiss. in its small fruits which do not exceed 1.6 cm. in length, and small leaves. From P. bahiensis Loes. it may be readily distinguished, according to description, by the small ovate leaves and longer petioles.

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(a) Papers from the Herbarium of the University of Michigan.

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## TWO NEW SPECIES OF ERYTHRINA FROM CENTRAL AMERICA

B. A. Krukoff

ERYTHRINA FOLKERSII Krukoff & Moldenke, sp. nov.

Arbor; ramulis glabris; petiolis glabris inermis; petioulis subgracilibus glabris; laminis foliorum chartaceis plerumque late ovatis glabris, ad basin rotundatis vel subtruncatis; inflorescentiis dense tomentosis; pedicellis dense tomentosis; calyce tubuloso-campanulatis extus adpresso-tomentellis, ad apicem rotundatis et saepe emarginatis.

A small or medium-sized tree; branchlets stout, grayish, glabrous; petioles rather stout, striate, yellowish, 21--23 cm. long, glabrous, unarmed; petioulules rather slender, 0.8--1.0 cm. long, glabrous; leaflet-blades chartaceous, green above, slightly paler beneath, usually broadly ovate, 11--18 cm. long, 7.5--13.5 cm. wide, acute or short-acuminate at apex, rounded or subtruncate at base, glabrous; midrib prominent above and beneath; secondaries 6 or 7 per side, ascending, prominent above and beneath; tertiaries prominulous on both surfaces; veinlet reticulation discernible to the naked eye above and beneath; inflorescences 17--36 cm. long, densely covered with rather loose brown toment-

um; pedicels 0.4--0.7 cm. long, with tomentum similar to that of the inflorescences; calyx coriaceous, tubular-campulate, 1.4--2.3 cm. long on the ventral side, 1.1--1.7 cm. long on the dorsal side, about 0.3 cm. wide at base, gradually ampliate to about 0.8 cm. at apex, asymmetric, rounded at apex and often emarginate, usually more or less crenulate at apex, appressed-tomentellous throughout; standard firmly membranous, oblanceolate, to 8.2 cm. long and 2.4 cm. wide, broadly rounded at apex, gradually narrowed to the base, scarcely or not at all clawed; wings thin-membranous, obovate, not at all sagittate or hastate (!), 0.8--0.9 cm. long, about 0.3 cm. wide at the widest part, rounded at apex, cuneately narrowed to the base; keel-petals thin-membranous, strongly asymmetric, sublabelliform-obovate, 0.8--0.9 cm. long, straight on the adjacent sides, flaring toward the apex on the outer side, 0.4--0.5 cm. wide near the apex, subcuneate at base; stamens to 6.5 cm. long, glabrous; pods blackish, 11--27 cm. long, usually not coiled, regularly and deeply constricted between each seed, tapering below into a stipe about 3 cm. long, abruptly terminated at apex by a stiff slender acumination about 2 cm. long; seeds scarlet, about 1.1 cm. long, with a distinct dark line extending from the hilum for approximately 0.2 cm. toward the chalazal end of the seed.

Type, H. H. Bartlett 11513, collected on February 15, 1931, between El Cayo and Benque Viejo, in British Honduras, and deposited in the Herbarium of the University of Michigan. Other collections from the same district are W. A. Schipp 935, Mercedes Chanek 74 and 102, and J. B. Kinloch 9163; also Chas. C. Deam 49 collected near Puerto Barrios, Guatemala.

It is a pleasure to name this species in honor of Dr. Karl Folkers, who succeeded in isolating several useful alkaloids from the seeds of certain species of Erythrina.

Until J. B. Kinloch 9163 became available this species was represented only by flowers and fruits. When in flower it is devoid of leaves. The species is apparently confined to the Atlantic coast. From E. rubrinervia H.B.K. and all other species which have the calyx somewhat resembling in shape that of the present species, it is immediately distinguished by its inflorescences and pedicels being densely covered with rather loose brown tomentum, by its calyx being appressed-tomentellous throughout, and by other characters indicated in the diagnosis.

ERYTHRINA NEGLECTA Krukoff & Moldenke, sp. nov.

Arbor; ramulis glabris plerumque spinosis; petiolis glabris plerumque spinosis; petiolulis crassiusculis parce puberulis mox glabrescentibus; laminis foliolorum subcoriaceis

rhomboideo-ovatis parce puberulis mox glabrescentibus, basin versus rotundatis vel subauriculatis, ima basin triangulato-cuneatis (rare truncatis); inflorescentiis glabris; pedicellis glabris; calyce tubuloso, extus glabris, ad apicem rotundatis et emarginatis.

A small spreading tree; branchlets stout, grayish, glabrous, often armed with spines; petioles rather stout, striate, brownish or yellowish, 10--22 cm. long, glabrous, often armed with short curved spines; petiolules rather stout, 0.9--1.3 cm. long, sparingly puberulent, soon glabrescent; leaflet-blades subcoriaceous, green above, distinctly paler beneath, sparingly puberulent when young, soon glabrescent; terminal leaflets usually rhombic-ovate, 7--14 cm. long, 7--15 cm. wide, acute or short-acuminate at apex, rounded or subauriculate toward the base and then often triangularly cuneate, rarely truncate at base; lateral leaflets similar in outline to the terminal ones, but inequilateral and smaller; midrib flat or prominulous above, prominent beneath; secondaries 6--8 per side, ascending, prominulous above, prominent beneath; tertiaries prominulous on both surfaces; veinlet reticulation mostly obscure or indiscernible above, the larger portion discernible to the naked eye beneath; inflorescences 16--23 cm. long, glabrous; pedicels about 0.7 cm. long, glabrous; calyx coriaceous, tubular, 1.7--2.2 cm. long on the ventral side, 1.0--1.7 cm. long on the dorsal side, 0.6--0.7 cm. wide, approximately equal in width throughout, except at the narrowed and asymmetric base, the very apex rounded and emarginate, minutely crenulate, not surmounted by an acute triangular tooth, glabrous throughout; standard firmly membranous, narrowly oblanceolate, to 8.6 cm. long, to 1.4 cm. wide at the widest part, subacute at apex, gradually narrowed to the acuminate base or short-clawed, slightly recurved toward apex; wings thin-membranous, lanceolate-sagittate, slightly asymmetric, 0.9--1.0 cm. long, 0.2--0.25 cm. wide at the widest part, rather obliquely subacute at apex, very slightly clawed at base; keel-petals thin-membranous, strongly asymmetric, 0.9--1.0 cm. long, straight to about the middle on the adjacent sides, incurved toward the apex, rather sharply acute at apex, flaring on the outer side, to 0.25 cm. wide near the base, short-clawed at base; stamens to 5.5 cm. long, glabrous; pods blackish, about 16 cm. long, often coiled, irregularly constricted between some of the seeds, tapering below into a stipe about 4 cm. long, abruptly terminated at apex by a stiff slender acumination about 2.5 cm. long; seeds scarlet, about 0.9 cm. long, with a distinct dark line extending from the hilum for approximately 0.2 cm. toward the chalazal end of the seed.

Type, R. S. Williams 372, collected February 23 -- March

22, 1908, at Penonome and vicinity, at 50--1000 feet elevation, in Panama, and deposited in the herbarium of the New York Botanical Garden. Other collections are H. Pittier 6939, collected at the Agricultural Experiment Station at Matias Hernandez in Panama, and J. M. Benitez 9159 from El Zapote, Escuintla, Guatemala.

This species is common in Central America and is well represented in herbaria. It has been often confused with E. rubrinervia H.B.K. in the past, from which species, however, it can be immediately distinguished by the fact that in the latter species the very apex of the calyx is also rounded, but is surmounted by a sharply acute triangular membranous tooth 1.5--2 mm. long (imparting to the calyx-apex a sharply acute appearance when fresh), the seeds are larger and without a distinct dark line extending from the hilum toward the chalaza, and the leaflets are narrower, acuminate or long-acuminate at the apex, cuneate or rarely rounded at the base, and only slightly paler beneath.

ERYTHRINA EGGERSII Krukoff & Moldenke, nom. nov.

Erythrina horrida Eggers, Fl. St. Croix 45. 1879 [not Erythrina horrida Moc. & Sesse ex P. DC. Prodr. 2: 413. 1825].

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#### ADDITIONAL NOTES ON THE GENUS AEGIPHILA -- IV

Harold N. Moldenke

The following notes constitute a continuation of those published in *Phytologia* 1: 182--208, 222--240, and 248--272 (1937). Herbarium abbreviations herein employed, in addition to those published in *Brittonia* 1: 249--250 (1934) and *Phytologia* 1: 182 and 222 (1937) are: Gt = Botanische Anstalten, Göttingen; Kr = B. A. Krukoff Herbarium, New York Botanical Garden, New York City; and Na = Natal Government Herbarium, Durban, Natal.

The generic name is mis-spelled "Aegiphita" in Fedde, *Repert.* 42: 248 (1937). To date 205 publications on the genus have been reviewed and the list of contributors to our knowledge of the genus embraces 585 persons. One hundred and forty-nine species and varieties are accepted as valid (including 4 doubtful species) and 246 names have been reduced to synonymy. A complete alphabetic list of the latter will be published in the next installment of these notes, with the disposition which has been made of each for ready reference. The types or original collections on which 140 of the